

What is claimed is:

1. A coating material for the coil coating process, comprising

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(A) as binder at least one aliphatic, araliphatic and/or aromatic polyester having an acid number of < 10 mg KOH/g, a hydroxyl number of from 30 to 200 mg KOH/g, and a number-average molecular weight Mn of between 1000 and 10 5000 daltons,

(B) as crosslinking agent at least two amino-containing resins of different reactivity.

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2. The coating material as claimed in claim 1, wherein the polyester (A) has a number-average molar mass of from 1500 to 4000 daltons.

20 3. The coating material as claimed in either of claims 1 and 2, wherein the polyester (A) has a molecular weight polydispersity of < 10.

25 4. The coating material as claimed in any of claims 1 to 3, wherein the polyester (A) has a glass transition temperature of from -20 to +50°C.

5. The coating material as claimed in any of claims 1 to 4, comprising the polyester (A) in an amount of from 5 to 40% by weight, based on the solids of the coating material.

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6. The coating material as claimed in any of claims 1 to 5, further comprising one or more of the following constituents:

10 (C) at least one electrically conductive pigment

(D) at least one anticorrosion pigment,

15 (E) at least one amorphous silica modified with metal ions,

20 (F) at least two catalysts of the thermal crosslinking of N-methylol groups and/or N-methoxymethyl groups with the complementary hydroxyl groups,

(G) at least one organic solvent,

25 (H) at least one compound based on a polyphenol containing at least one epichlorohydrin group,

(I) at least one surface-modified pyrogenic silica,

(J) at least one compound of the general formula
(I) :

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$M_n(X)_m$ (I)

in which the variables and the indices have
the following meanings:

10 M is at least one central atom selected
from the group of Lewis acceptors,

15 X stands for Lewis donor ligands having at
least one bridging atom selected from
elements of main groups 5 and 6 of the
Periodic Table of the Elements,

n is from 1 to 500, and

20 m is from 3 to 2000.

7. The coating material as claimed in any of claims 1
to 6, wherein the crosslinking agent (B) comprises

25 (B1) at least one benzoguanamine-formaldehyde
resin which may have been etherified fully
and/or partly with methanol, and/or

(B2) at least one melamine-formaldehyde resin, which may have been etherified with methanol or consists thereof.

5 8. The coating material as claimed in claim 7, wherein the weight ratio of crosslinking agent (B1) to crosslinking agent (B2) is from 1:10 to 10:1.

10 9. The coating material as claimed in either of claims 7 and 8, comprising crosslinking agent (B) in an amount of from 1 to 10% by weight, based on the solids of the coating material.

15 10. The coating material as claimed in any of claims 6 to 9, wherein at least one electrically conductive pigment (C) is selected from the group consisting of elemental silicon and metallic, water-insoluble phosphides.

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11. The coating material as claimed in any of claims 6 to 10, wherein the anticorrosion pigment (D) is selected from the group consisting of zinc phosphate, zinc orthophosphate, zinc metaborate, and barium metaborate monohydrate.

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12. The coating material as claimed in any of claims 6 to 11, wherein the metal ions in the amorphous silica (E) are selected from the group consisting

of alkaline earth metal ions, scandium ions, yttrium ions, and lanthanum ions, lanthanide ions, and zinc ions and aluminum ions.

5 13. The coating material as claimed in any of claims 6
to 12, comprising two catalysts (F).

14. The coating material as claimed in any of claims 6
to 13, wherein at least one of the catalysts (F)
10 is selected from the group (F1) consisting of
acidic epoxy resin-phosphoric acid adducts and at
least one other of the catalysts (F) is selected
from the group (F2) consisting of blocked sulfonic
acids.

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15. The coating material as claimed in any of claims 6
to 14, wherein the weight ratio of catalyst (F1)
to catalyst (F2) is from 20:1 to 1:3.

20 16. The coating material as claimed in any of claims 6
to 15, comprising the catalysts (F) in an amount
of from 0.5 to 10% by weight, based on the solids
of the coating material.

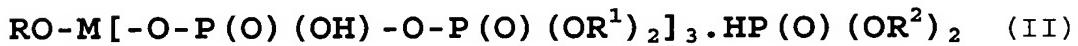
25 17. The coating material as claimed in any of claims 6
to 16, comprising the organic solvent (G) in an
amount of from 3 to 70% by weight, based on the
total amount of the coating material.

18. The coating material as claimed in any of claims 6 to 17, wherein the polyphenols which form the basis of the compounds (H) are selected from the group consisting of bisphenol A and bisphenol F.

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19. The coating material as claimed in any of claims 6 to 18, wherein the compound (J) is selected from the group consisting of compounds (J) of the general formula II:

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15 in which the variables R, R¹, and R² independently of one another stand for aliphatic and cycloaliphatic radicals and M is titanium, zirconium or aluminum.

20. A process for preparing a coating material as claimed in any of claims 1 to 19, which comprises

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(1) mixing constituents (A), (I), (E), (D), and (G) in the stated order and grinding the resulting mixture to a Hegmann fineness of <20 µm, and

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(2) adding the constituents (H), (B1), (B2), (C), (J), and (G) in the stated order to the ground mixture (1), and then

- (3) homogenizing the resulting mixture (2).
21. The process as claimed in claim 20, wherein the catalysts (F) are added to the mixture (3) prior
5 to application.
22. The use of a coating material as claimed in any of claims 1 to 19 in automotive construction, in the household appliance sector, in the lighting
10 sector, or in the interior or exterior architectural sector.